

JOURNAL OF SOUND AND VIBRATION

EDITOR

P. E. Doak

EDITORIAL BOARD

W. A. Allen
H. O. Berktaý
R. E. D. Bishop
B. L. Clarkson
R. Cohen
D. G. Crighton
I. Dyer
C. L. Dym
A. Freedman
G. M. L. Gladwell
M. Heckl
D. J. Johns
A. W. Leissa
D. J. Mead
H. G. Morgan
R. A. Piesse
E. J. Richards
D. W. Robinson
J. D. Robson
A. Tondl
G. B. Warburton

VOLUME 101

1985

ACADEMIC PRESS

LONDON ORLANDO SAN DIEGO
NEW YORK TORONTO MONTREAL
SYDNEY TOKYO

ISSN 0022-460X



CONTENTS OF VOLUME 101

NUMBER 1, 8 JULY 1985

KRISHNA MURTY, A. V., On the shear deformation theory for dynamic analysis of beams	1
BICKFORD, W. B. and REDDY, E. S., On the in-plane vibrations of rotating rings	13
CELEP, Z., Plane elastic waves in meshes of bilinear finite elements	23
HUNDAL, M. S., Shock response of a symmetric pneumatic spring to a velocity pulse	33
LANGLEY, R. S., A finite element method for the statistics of non-linear random vibration	41
FERRI, A. A. and DOWELL, E. H., The behavior of a linear, damped modal system with a non-linear spring-mass-dry friction damper system attached, Part II	55
CHI, M. and VOSSOUGH, J., Response of slender structural members in self-excited oscillation	75
HUMPHREY, V. F. and BERKTAY, H. O., The transmission coefficient of a panel measured with a parametric source	85
GRIFFITHS, I. D., RAW, G. J., HILL, C. A. and STORRAR, J. M., Gypsies' response to road traffic noise	107

Letters to the Editor

GANESAN, N. and RAO, S. N., Vibration analysis of moderately thick skew plates by a variational approach	117
BELTZER, A. I., Causality and the quasicrystalline approximation	120
GUTIERREZ, R. H. and LAURA, P. A. A., Transverse vibrations of rectangular plates elastically restrained against rotation along the edges with varying stiffener length	122
SHIVAMOGGI, B. K., Comments on "A regular perturbation technique for non-linearly coupled oscillators in resonance"	125
MICKENS, R. E., Author's reply	125
JOB, R. F. S. and BULLEN, R. B., Demand characteristics in experimental comparisons of the effects of noise and vibration	127
ALLARD, J. F., BOURDIER, R. and BRUNEAU, A. M., The measurement of acoustic impedance at oblique incidence with two microphones	130
YAMADA, G., IRIE, T. and NOTOYA, S., Natural frequencies of elliptical cylindrical shells	133

NUMBER 2, 22 JULY 1985

OCHOA, O. O., ENGBLOM, J. J. and TUCKER, R., A study of the effects of kinematic and material characteristics on the fundamental frequency calculations of composite plates	141
SKIDMORE, G. R. and HALLAUER, W. L., JR., Modal-space active damping of a beam-cable structure: theory and experiment	149
ALLARD, J. F. and DELAGE, P., Free field measurements of absorption coefficients on square panels of absorbing materials	161
CHANG, C. H. and JUAN, Y. C., Effect of rotatory inertia and shear deformation on vibration of an inclined bar with an end constraint	171
FABUNMI, J. A., Extended damping models for vibration data analysis	181

SRINIVASAN, R. S. and THIRUVENKATACHARI, V., Free vibration of transverse isotropic annular sector Mindlin plates	193
HODGES, C. H., POWER, J. and WOODHOUSE, J., The use of the sonogram in structural acoustics and an application to the vibrations of cylindrical shells	203
HODGES, C. H., POWER, J. and WOODHOUSE, J., The low frequency vibration of a ribbed cylinder, Part 1: Theory	219
HODGES, C. H., POWER, J. and WOODHOUSE, J., The low frequency vibration of a ribbed cylinder, Part 2: Observations and interpretation	237

Letters to the Editor

IRIE, T., YAMADA, G. and KOBAYASHI, Y., Natural frequencies of circular cylindrical shells with longitudinal exterior plates	257
FARASSAT, F. and MYERS, M. K., Some qualitative results on the thickness and loading noise of rotating blades	262
SAKIYAMA, T., A method of analyzing the bending vibration of any type of tapered beams	267
BHAT, R. B., Component mode synthesis in modal testing of structures	271
RAW, G. J. and GRIFFITHS, I. D., The effect of changes in aircraft noise exposure	273

NUMBER 3, 8 AUGUST 1985

OYADIJI, S. O. and TOMLINSON, G. R., Determination of the complex moduli of viscoelastic structural elements by resonance and non-resonance methods	277
LAURA, P. A. A., ERCOLI, L., GROSSI, R. O., NAGAYA, K. and SARMIENTO, G. S., Transverse vibrations of composite membranes of arbitrary boundary shape	299
LAURA, P. A. A. and GUTIERREZ, R. H., Transverse vibrations of rectangular plates on inhomogeneous foundations, Part I: Rayleigh-Ritz method	307
HORENBERG, J. A. G. and KERSTENS, J. G. M., Transverse vibrations of rectangular plates on inhomogeneous foundations, Part II: Modal constraint method	317
GORMAN, D. G., Thermal gradient effects upon the vibrations of certain composite circular plates, Part I: Plane orthotropic	325
GORMAN, D. G., Thermal gradient effects upon the vibration of certain composite circular plates, Part II: Plane orthotropic with temperature dependent properties	337
SCHMIDT, H., Resolution bias errors in spectral density, frequency response and coherence function measurements, I: General theory	347
SCHMIDT, H., Resolution bias errors in spectral density, frequency response and coherence function measurements, II: Application to first-order systems (white noise excitation)	363
SCHMIDT, H., Resolution bias errors in spectral density, frequency response and coherence function measurements, III: Application to second-order systems (white noise excitation)	377
SCHMIDT, H., Resolution bias errors in spectral density, frequency response and coherence function measurements, IV: Time delay bias errors	405
SCHMIDT, H., Resolution bias errors in spectral density, frequency response and coherence function measurements, V: Comparison of different frequency response estimators	413
SCHMIDT, H., Resolution bias errors in spectral density, frequency response and coherence function measurements, VI: Non-white noise at the input	419
ROURE, A., Self-adaptive broadband active sound control system	429

CONTENTS OF VOLUME 101

Letters to the Editor

CHU, W. T., Single-microphone method for certain applications of the sound intensity technique	443
HALLIWELL, N. A. and EASTWOOD, P. G., The laser torsional vibrometer	446

NUMBER 4, 22 AUGUST 1985

AL-NOURY, S. I. and ALI, S. A., Large-amplitude vibrations of parabolic cables	451
ANDERSON, G. L., Stability of a manipulator with resilient joints	463
BANERJEE, J. R. and KENNEDY, D., Response of an axially loaded Timoshenko beam to random loads	481
HRYNIEWICZ, Z., Love-type waves in a randomly non-homogeneous layer over a homogeneous half-space	489
FOX, C. H. J. and HARDIE, D. J. W., Harmonic response of rotating cylindrical shells	495
ZDRAVKOVICH, M. M., Flow induced oscillations of two interfering circular cylinders	511
TAKAHASHI, D., Wave propagation in ground-structure systems with line contact	523
CHIA, C. Y., Non-linear vibration of anisotropic rectangular plates with non-uniform edge constraints	539
BARUH, H. and MEIROVITCH, L., Parameter identification in distributed systems	551
LA FONTAINE, R. F., SHEPHERD, I. C. and CABELLI, A., A bidirectional microphone for the measurement of duct noise	565
DHOOPAR, B. L., GUPTA, P. C. and SINGH, B. P., Vibration analysis of orthogonal cable networks by transfer matrix method	575

Letters to the Editor

LAURA, P. A. A., GROSSI, R. O., ERCOLI, L., GOLDFRACHT, E. and ROSENHOUSE, G., Dynamic analysis of machine-supporting non-uniform plates	585
LAURA, P. A. A., Comments on "Vibrations of rectangular plates with elastically restrained edges"	589
WARBURTON, G. B. and EDNEY, S. L., Authors' reply	590
HILYARD, N. C. and COLLIER, P., Response of a vibration isolator with distributed non-linear stiffness at large excitations	593
GANESAN, N. and RAO, S. N., Influence of location of cut-outs on natural frequencies of thin square plates	598
ANNOUNCEMENTS	601
BOOK REVIEW	607
HUMAN RESPONSE TO VIBRATION	609
INDEX TO VOLUME 101	613

Copyright © 1985, by Academic Press Inc. (London) Ltd.

ALL RIGHTS RESERVED

No part of this volume may be reproduced in any form, by photostat, microfilm, or any other means, without written permission from the publishers.

Printed in Great Britain